



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-5423; Directorate Identifier 2016-NE-09-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Pratt & Whitney Division Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Pratt & Whitney (PW) PW4164, PW4164-1D, PW4168, PW4168-1D, PW4168A, PW4168A-1D, and PW4170 turbofan engines. This proposed AD was prompted by several instances of fuel leaks on PW engines installed with the Talon IIB combustion chamber configuration. This proposed AD would require initial and repetitive inspections of the affected fuel nozzles and their replacement with parts eligible for installation. We are proposing this AD to prevent failure of the fuel nozzles, which could lead to engine fire and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5423; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Besian Luga, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; email: [besian.luga@faa.gov](mailto:besian.luga@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-5423; Directorate Identifier 2016-NE-09-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all

comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

PW reported nine occurrences of fuel leaks on PW engines with the Talon IIB combustion chamber configuration. The subsequent investigation of these fuel leaks determined that the leak occurs at the brazed joint interface on the fuel injector support (fuel nozzle) between the inlet fitting and the nozzle support pad. Cracks are the result of thermal mechanical fatigue due to high thermal gradients on engines equipped with the Talon IIB combustor. The cracking may be aggravated by a laser tack weld that holds the nozzle fitting in place during the braze process. This process change, which adds this laser weld, was introduced to fuel nozzle, part number 51J345, in December 2008.

### **Related Service Information under 1 CFR part 51**

We reviewed PW Alert Service Bulletin (ASB) PW4G-100-A73-45, dated February 16, 2016. The ASB describes procedures for inspecting and replacing the fuel nozzles. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This proposed AD would require initial and repetitive inspections and replacement of the affected fuel nozzles.

### **Costs of Compliance**

We estimate that this proposed AD would affect 72 engines installed on airplanes of U.S. registry. We also estimate 2.2 hours per engine to comply with this proposed inspection and 48 hours to replace the fuel nozzle when it is replaced. The average labor rate is \$85 per hour. We estimate that parts cost would be \$15,780 per engine. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$1,443,384.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Pratt & Whitney:** Docket No. FAA-2016-5423; Directorate Identifier 2016-NE-09-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Pratt & Whitney (PW):

(1) PW4164, PW4168, and PW4168A model engines that have incorporated PW Service Bulletin (SB) PW4G-100-72-214, dated December 15, 2011, or PW SB PW4G-100-72-219, Revision No. 1, dated October 5, 2011, or original issue, and have fuel nozzles, part number (P/N) 51J345, installed;

(2) PW4168A model engines with Talon IIA outer combustion chamber assembly, P/N 51J100, and fuel nozzles, P/N 51J345, with serial numbers CGGUA19703 through CGGUA19718 or CGGUA22996 and higher, installed;

(3) PW4168A-1D and PW4170 model engines with engine serial numbers P735001 thru P735190 and fuel nozzles, P/N 51J345, installed; and

(4) PW4164-1D, PW4168-1D, PW4168A-1D, and PW4170 model engines that have incorporated PW SB PW4G-100-72-220, Revision No. 4, dated September 30, 2011, or earlier revision, and have fuel nozzles, P/N 51J345, installed.

**(d) Unsafe Condition**

This AD was prompted by nine instances of fuel leaks on PW engines with the Talon IIB combustion chamber configuration installed. We are issuing this AD to prevent failure of the fuel nozzles, which could lead to engine fire and damage to the airplane.

**(e) Compliance**

Comply with this AD within the compliance times specified, unless already done.

(1) Within 800 flight hours after the effective date of this AD, and thereafter within every 800 flight hours accumulated on the fuel nozzles, do the following:

(i) Inspect all fuel nozzles, P/N 51J345. Use Part A of PW Alert Service Bulletin (ASB) PW4G-100-A73-45, dated February 16, 2016, to do the inspection.

(ii) For any fuel nozzle that fails the inspection, before further flight, remove and replace it with a part that is eligible for installation.

(2) At the next shop visit after the effective date of this AD, and thereafter at each engine shop visit, remove all fuel nozzles, P/N 51J345, unless fuel nozzles were replaced within the last 100 flight hours. Use Part B of PW ASB PW4G-100-A73-45, dated February 16, 2016, to replace the fuel nozzles with parts eligible for installation.

**(f) Definitions**

(1) For the purpose of this AD, an “engine shop visit” means the induction of an engine into the shop for any maintenance.

(2) For the purpose of this AD, a part that is “eligible for installation” is a fuel nozzle, with a P/N other than 51J345, that is FAA-approved for installation or a fuel nozzle, P/N 51J345, that meets the requirements of Part A, paragraph 4.B., or Part B, paragraph 1.B. of PW ASB PW4G-100-A73-45, dated February 16, 2016.

**(g) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

**(h) Related Information**

(1) For more information about this AD, contact Besian Luga, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; email: besian.luga@faa.gov.

(2) PW ASB PW4G-100-A73-45, dated February 16, 2016, can be obtained from PW using the contact information in paragraph (h)(3) of this proposed rule.

(3) For service information identified in this proposed rule, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on April 13, 2016.

Carlos Pestana,  
Acting Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

[FR Doc. 2016-09122 Filed: 4/19/2016 8:45 am; Publication Date: 4/20/2016]